ABSTRACT

The present invention provides a method for producing a sealed ^{210}Pb-^{210}Po α source (α particle emitter) and an apparatus thereof, which can be used as an α particle source for a random pulse generator. The method for producing a sealed ^{210}Pb-^{210}Po α source (α particle emitter) includes the steps of: collecting ^{210}Pb-^{210}Po with a ^{210}Pb collector using radon collection; precipitating the hydroxides of the collected ^{210}Pb-^{210}Po and collecting the precipitates by a polycarbonate (PC) filter; dissolving the ^{210}Pb-^{210}Po hydroxide precipitate to form a ^{210}Pb-^{210}Po radioactive thin film; and sealing the ^{210}Pb-^{210}Po radioactive thin film for protection.